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Date

Francis C. Hand

#### Art Unit 2131

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner:

Zachary A. Davis

Applicants:

Valene Skerpac

Serial No:

10/062,799

Filed:

January 31, 2002

Title :

N-Dimensional Biometric Security System

Customer No.:27172

#### AMENDMENT AFTER FINAL REJECTION

Assistant Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In response to the Final Rejection dated June 20, 2006, please amend the application as follows:

#### In the Description:

Page 17, between lines 12 and 13, cancel the Amendment of January 27, 2006 and substitute the following:

- Referring to Fig. 1, in a first step 10 when a user makes a request for system access, the controller generates a <u>one-time</u> challenge phrase, i.e. the n-dimensional parameter, from a number (n) of random challenge phrases <u>that can potentially be generated</u>.

In a second step 11, the controller requests the user to speak the phrase, collects the response made by the user and generates a signal representative of the spoken phrase, i.e. voice features representative of the user's voice print and the words that are spoken.

In step 12 (ASR matching), this signal is then processed by automatic speech recognition (ASR) to validate the words that are spoken voice information used for speech recognition. If validated, a first validation signal to that effect is generated.

In step 13 (Verification matching), the signal representative of the spoken phrase is also processed to verify the user for speaker recognition voice information used for epeceh recognition (Verification matching 13). If validated, a second validation signal to that effect is generated.

If the two validation signals (from the ASR matching and the Verification matching) are issued match each other, an acceptance of the user to the system is made. If the two validation signals are not issued do not match each other, the user is rejected and access to the system is denied to the user. —

Page 14, lines 7 to 14, change "The ..processing." to

—The security scheme described above can theoretically be implemented across multiple systems and networks using voice systems such as digital cellular phones, Personal Digital Assistants (PDAs) and voice over Internet Protocol (VoIP) telephone systems and applications such as multi-media or voice portals on the Internet. The scheme is effective and applicable today in a speech communications environment particularly where high quality voice processing is prevalent. For example, use may be made of a Personal Computer (PC) running voice recognition software with a high quality sound card and a noise canceling microphone headset installed for quality voice input. Therefore, the application discusses an overall security architecture and applies it to a system implementation architecture that will realize optimal security performance using voice processing.